

Installation Instructions

LP GAS CONVERSION KIT USAGE AND CONTENTS


ACCESSORY PART NO.	USAGE	CONTENTS
CRLPKIT1004A00	48PG03-14 48PD05–06	11 Burner Orifices, Drill Size No. 50, 0.070 in. 11 Burner Orifices, Drill Size No. 51, 0.067 in. 11 Burner Orifices, Drill Size No. 52, 0.065 in. 8 Burner Orifices, Drill Size No. 53, 0.060 in. 1 LP Conversion Plate 1 LP Conversion Responsibility Label 1 Warning Label

SAFETY CONSIDERATIONS

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

When working on equipment, observe precautions in the literature, tags and labels attached to the unit, and other safety precautions that may apply.

Follow all safety codes. Wear safety glasses and work gloves.

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies a hazard which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

WARNING

ELECTRICAL SHOCK, FIRE AND EXPLOSION HAZARD

Failure to follow this warning could result in personal injury, death or property damage.

Before beginning any modification, close main supply shutoff valve. Be certain that the main line electrical disconnect switch is in the OFF position and lockout tag is installed. Tag disconnect switch and gas valve with suitable warning labels.

WARNING

ELECTRICAL SHOCK, FIRE AND EXPLOSION HAZARD

Failure to follow this warning could result in personal injury or death.

This unit is designed to operate at 3.5-in. wg (\pm 0.3 in.wg) manifold pressure in high fire with LP gas. Exceeding this pressure will cause explosion or injury.

GENERAL

The LP Conversion Kit allows the unit to utilize a liquid propane fuel supply in areas where natural gas is not available. The kit may be used at elevations as high as 7000 ft.

For higher elevations, an accessory high altitude kit is required.

IMPORTANT: The Accessory LP Conversion is not for use with Low NOx units. If Low NOx units are converted to LP gas, the Low NOx baffle must be removed. The units will no longer be classified as Low NOx units. Use the LP Conversion Kit with standard units only.

The Gas Input (Btuh) values will be affected by the change in orifice sizes. (See Table 1.)

Table 1 – Burner Orifice Sizes

UNIT SIZE 48PG, 48PD	GAS HEAT TYPE (UNIT CODE)	ORIFICE DRILL SIZE*	MANIFOLD PRESSURE (in. wg)	ADJUSTED LP HEATING INPUT (Btuh)
03	High (F)	No. 52, 0.065 in.	3.5	55,000
	Low (D)	No. 52, 0.065 in.	3.5	55,000
04, 05	Medium (E)	No. 52, 0.065 in.	3.5	74,000
	High (F)	No. 52, 0.065 in.	3.5	111,000
06, 07	Low (D)	No. 52, 0.065 in.	3.5	74,000
	Medium (E)	No. 52, 0.065 in.	3.5	111,000
08, 09	High (F)	No. 52, 0.065 in.	3.5	148,000
	Low (D)	No. 50, 0.070 in.	3.5	130,000
12, 14	Medium (E)	No. 50, 0.070 in.	3.5	174,000
	High (F)	No. 50, 0.070 in.	3.5	217,000
	Low (D)	No. 50, 0.070 in.	3.5	174,000
	Medium (E)	No. 50, 0.070 in.	3.5	217,000
	High (F)	No. 50, 0.070 in.	3.5	239,000

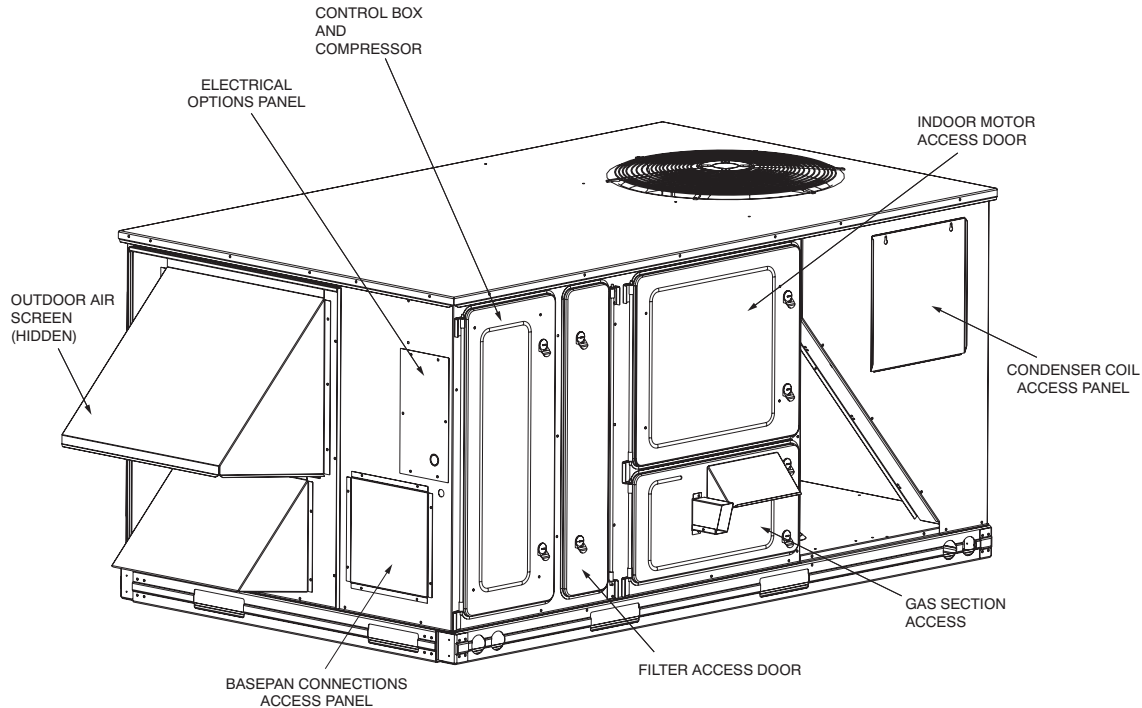


Fig. 1 - Panel and Filter Locations (48PG03-07 Unit Shown)

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INSTALLATION

Step 1 — Remove Gas Manifold Pipe

1. Close the manual shutoff valve on the gas supply piping.
2. Open gas section access door. (See Fig. 1.)
3. Set the switch on the main gas valve to the OFF position. (See Fig. 2.)
4. Shut off power to unit and install lockout tag.
5. Disconnect gas piping at unit gas valve.
NOTE: Use a backup wrench to avoid twisting the gas manifold pipe.
6. Remove wires connected to gas valve. Mark each wire to ensure proper reassembly.
7. Remove wires connected to the flame rollout switch. Mark wires.
8. Remove wires connected to igniter and flame sensor. Mark wires.

9. Remove the four screws that attach the gas manifold pipe to the burner bracket and rotate the pipe away from the unit. The pipe should NOT be removed from the wire bundle connecting to the IGC board. (See Fig. 3.)

Step 2 — Replace Orifice Fittings

1. Remove standard orifice fittings from the manifold pipe. Save orifices for possible conversion back to natural gas at a later date.
2. Select the correct LP orifice fittings from the LP Conversion Kit. For standard elevations refer to Table 1. For elevations above 2000 ft refer to Table 2. Extra orifices are included in the accessory for elevations up to 7000 ft. For elevations above 7000 ft, refer to Table 2 and purchase the correct orifices required.
3. Install new orifice fittings.
NOTE: Pipe sealant is not required. Never use Teflon tape on fitting threads since loose pieces may plug gas orifices.

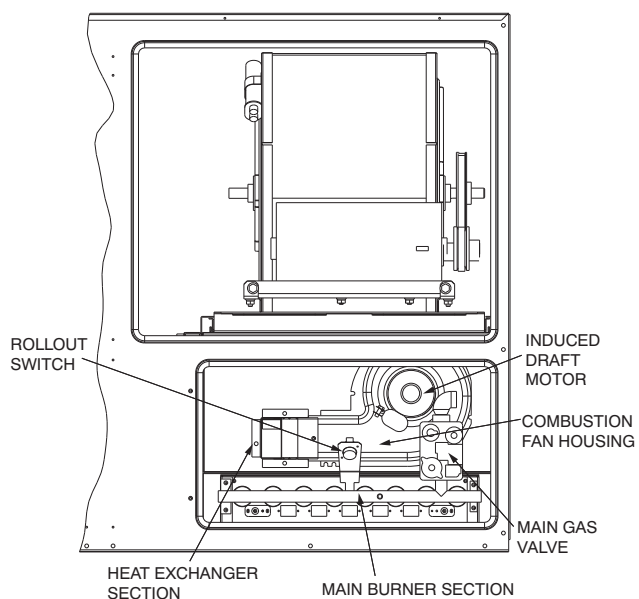


Fig. 2 - Typical Gas Heating Section

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Table 2 – Altitude Compensation
48PD05-06, 48PG03-07

ELEVATION (ft)	NATURAL GAS ORIFICE†	LP ORIFICE†
0-1,999	45	52
2,000	47	52
3,000	47	53
4,000	47	53
5,000	48	53
6,000	48	53
7,000	48	53
8,000	49	54
9,000	49	54
10,000	50	54
11,000	51	54
12,000	51	55
13,000	52	55
14,000	52	56

48PG08-14

ELEVATION (ft)	NATURAL GAS ORIFICE†	LP ORIFICE†
0-1,999	43	50
2,000	44	51
3,000	44	51
4,000	44	51
5,000	45	51
6,000	45	52
7,000	47	52
8,000	47	52
9,000	47	53
10,000	48	53
11,000	49	53
12,000	50	54
13,000	50	54
14,000	51	55

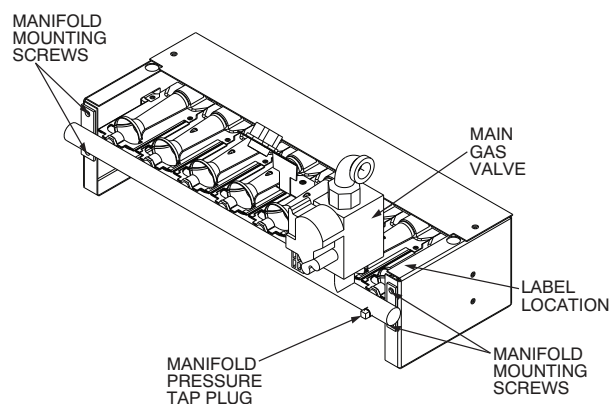
LEGEND

LP — Liquid Propane

*As the height above sea level increases, there is less oxygen per cubic foot of air. Therefore, heat input rate should be reduced at higher altitudes.

Includes a 4% input reduction per each 1000 ft.

†Orifices available through your Carrier dealer.



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Fig. 3 - Main Burner Section (48PG03-07 Shown)

Step 3 — Re-Install Manifold Pipe

1. Attach manifold pipe to the burner bracket using four screws. (See Fig. 3.) Make sure that all orifice fittings are properly seated in the burner inlets.
2. Reconnect wires to the igniter, flame sensor, flame rollout switch, and gas valve.
3. Reconnect gas piping to the gas valve.

Step 4 — Apply Conversion Labels

1. Attach the LP Conversion Plate next to the unit rating plate.
2. Complete the Conversion Responsibility label by writing the kit number, dealer name, and date in ink. Attach to the burner bracket near the main gas valve. (See Fig. 3.)
3. Attach Warning Label on the outside of the gas section access door.

Step 5 — Check Unit Operation and Make Necessary Adjustments

NOTE: Gas pressure must not be less than 5 in. wg or greater than 13 in. wg at the unit connection.

1. Remove pressure tap plug from manifold pipe and connect a pressure gauge or manometer.
2. Turn on electrical supply.
3. Open the manual shutoff valve on the gas supply piping. Check pipe connection to main gas valve for leaks.
4. Set the switch on the main gas valve to the ON position.
5. Call for high stage heat (W2 energized). The unit may require several ignition attempts due to trapped air in the manifold pipe.
6. When main burners ignite check orifice fittings for leaks. Repair if necessary.

⚠ WARNING

FIRE AND EXPLOSION HAZARD

Failure to follow this warning could result in personal injury and/or property damage.

Never test for gas leaks with an open flame. Use a commercially available soap solution made specifically for the detection of leaks to check all connections.



WARNING

EXPLOSION, PERSONAL INJURY HAZARD

Failure to follow this warning could result in personal injury or death.

If unit is equipped with a 2-stage gas valve, ensure valve has energized second stage (high fire) before adjusting manifold pressure.

7. Verify that manifold pressure is between 3.2 and 3.5-in. wg while in high fire (W2 energized). Readjust pressure if necessary.



WARNING

EXPLOSION, PERSONAL INJURY HAZARD

Failure to follow this warning could result in personal injury or death.

This unit is designed to operate at 3.5-in.wg (± 0.3 -in.wg) manifold pressure with LP gas. Do NOT exceed this pressure.

8. Shut down unit by turning down thermostat, shutting off manual gas valve, and shutting down power to unit.
9. Remove pressure gauge or manometer and replace manifold pressure tap plug.
10. Start up unit. With burners ignited, check pressure tap plug for gas leaks. Repair if necessary.
11. Close and secure gas section access door.
12. Set thermostat to desired temperature.
13. Remove warning tags from disconnect switch and gas supply shutoff valve.